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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,366	10/17/2001	Serge Jacques Fayeulle	STL10198/40046.162USU1	7773

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David K. Lucente
Seagate Technology LLC
Intellectual Property Dept. - COL2LGL
389 Disc Drive
Longmont, CO 80503

EXAMINER	
TZENG, FRED	

ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/982,366	FAYEULLE, SERGE JACQUES	
	Examiner	Art Unit	
	Fred Tzeng	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,7,11-15,18,19 and 23-28* is/are rejected.

7)☒ Claim(s) *4,5,8,9,16,17 and 20-22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2&3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 are presented for examination.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 12 is objected to because of the following informalities: It is confusing and not clear as to the limitations of "...the threshold rotational velocity... " on lines 12-13 and "...the threshold rotational velocity..." on line 16. Appropriate correction is required.

4. Claim 24 is objected to because of the following informalities: It is ambiguous and not clear as to the limitation of "...the threshold rotational velocity... " on lines 12-13 and the limitation of "...the threshold rotational velocity..." on line 16. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claim 24 recites the limitation "...the accelerating step (d) of the method..." in lines 10-11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 6, 7, 11-15, 18, 19, 23-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Boutaghou et al (USPN 6,243,222), hereafter as Boutaghou.

8. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Boutaghou discloses a method for increasing rotational velocity of a data storage disc in a disc drive (see column 4 lines 2-9 or figure 9), the method comprising steps of: (a) accelerating the data storage disc at a first acceleration rate from an initial rotational velocity to a first predetermined rotational velocity (see column 9 lines 9-20; i.e., accelerating the disk 134 from its initial rotational velocity to the first rotational disk velocity at the range of 200 RPM – 300 RPM); (b) accelerating the data storage disc at a second acceleration rate from the first

predetermined rotational velocity to a threshold rotational velocity (see column 9 lines 17-25; i.e., accelerating the disk 134 at the second acceleration rate from first rotational velocity to a threshold rotational velocity in the range of 200 RPM to 300 RPM or 150 RPM – 1000 RPM); and (c) as the data storage disc rotates at the threshold rotational velocity, moving a transducer from a landing zone to a data region on a surface of the data storage disc, wherein the threshold rotational velocity creates and maintains an air bearing between the transducer and the surface of the disc (see column 9 lines 12-14, 20-25, i.e., once the threshold rotational speed of the disk 134 is achieved, the transducer is moved from the ramp 136 to disk 134 surface, the threshold first rotational velocity generates a cushion of air between the air bearing surface 500 of the slider 126 and the disk 134).

Regarding claim 2, Boutaghou discloses that the threshold rotational velocity is a final rotational velocity creating and maintaining the air bearing as the transducer radially traverses across the disc between an inner diameter and an outer diameter (see column 9 lines 12-14, 20-30, i.e., at the threshold second rotational velocity or the final rotational velocity, the transducer radially transverses across the disk between an inner diameter and an outer diameter, and an air bearings being maintained here too).

Regarding claim 3, Boutaghou discloses that the accelerating step (b) comprises steps of: (i) accelerating the data storage disc at the second acceleration rate from the first predetermined rotational velocity to a second predetermined rotational velocity (see column 9 lines 17-20, i.e., the disk 134 being accelerated at the second acceleration rate in the range of 200 RPM – 300 RPM or 150 RPM – 1000 RPM); (ii) accelerating the

data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the threshold rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 17-30, i.e., the disk 134 being accelerated by one or more acceleration rates from 200 RPM – 300 RPM or 150 RPM – 1000 RPM until the threshold second rotational velocity achieved).

Regarding claim 6, Boutaghou discloses that the threshold rotational velocity is an early exit velocity creating the air bearing as the transducer exists the landing zone and accesses the data region (see column 9 lines 12-25, i.e., being the early exit velocity, at the threshold first rotational velocity, the transducer moves from ramp 136 to disk 134 surface, and an air bearing is also created and maintained here).

Regarding claim 7, Boutaghou discloses a further step of: (d) accelerating the data storage disc at a third acceleration rate from the threshold rotational velocity to a final rotational velocity maintaining the air bearing as the transducer locates to an outer diameter of the data storage disc (see column 9 lines 25-30, i.e., the disk 134 being accelerated at a third acceleration rate to the final second rotational velocity as the transducer positioned over disk surface locating data anywhere on the disk surface including outer diameter area).

Regarding claim 11, Boutaghou discloses that the accelerating step (b) comprises steps of: (i) accelerating the data storage disc at the second acceleration rate from the first predetermined rotational velocity to a second predetermined rotational velocity (see column 9 lines 9-25, i.e., at the second acceleration rate, the disk 134 is

accelerated from 200 RPM – 300 RPM or 150 RPM – 1000 RPM); (ii) accelerating the data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the threshold rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 20-30, i.e., the disk 134 being accelerated at one or more next acceleration rates from the predetermined first rotational velocity to the predetermined second rotational velocity which is the threshold rotational velocity).

Regarding claim 12, Boutaghou discloses that the acceleration step (d) comprises steps of: (i) accelerating the data storage disc at the third acceleration rate from the threshold rotational velocity to a second predetermined rotational velocity (see column 9 lines 9-25); (ii) accelerating the data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the final rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 25-30).

Regarding claim 13, Boutaghou discloses a program storage device readable by a computer system tangibly embodying a program of instructions executable by the computer system to perform a method for increasing rotational velocity of a data storage disc in a disc drive (see column 4 lines 2-9 or figure 9), the method comprising steps of: (a) accelerating the data storage disc at a first acceleration rate from an initial rotational velocity to a first predetermined rotational velocity (see column 9 lines 9-20; i.e., accelerating the disk 134 from its initial rotational velocity to the first rotational disk velocity at the range of 200 RPM – 300 RPM); (b) accelerating the data storage disc at

a second acceleration rate from the first predetermined rotational velocity to a threshold rotational velocity (see column 9 lines 17-25; i.e., accelerating the disk 134 at the second acceleration rate from first rotational velocity to a threshold rotational velocity in the range of 200 RPM to 300 RPM or 150 RPM – 1000 RPM); and (c) as the data storage disc rotates at the threshold rotational velocity, moving a transducer from a landing zone to a data region on a surface of the data storage disc, wherein the threshold rotational velocity creates and maintains an air bearing between the transducer and the surface of the disc (see column 9 lines 12-14, 20-25, i.e., once the threshold rotational speed of the disk 134 is achieved, the transducer is moved from the ramp 136 to disk 134 surface, the threshold first rotational velocity generates a cushion of air between the air bearing surface 500 of the slider 126 and the disk 134).

Regarding claim 14, Boutaghou discloses that the threshold rotational velocity is a final rotational velocity creating and maintaining the air bearing as the transducer radially traverses across the disc between an inner diameter and an outer diameter (see column 9 lines 12-14, 20-30, i.e., at the threshold second rotational velocity or the final rotational velocity, the transducer radially transverses across the disk between an inner diameter and an outer diameter, and an air bearings being maintained here too).

Regarding claim 15, Boutaghou discloses that the accelerating step (b) comprises steps of: (i) accelerating the data storage disc at the second acceleration rate from the first predetermined rotational velocity to a second predetermined rotational velocity (see column 9 lines 17-20, i.e., the disk 134 being accelerated at the second acceleration rate in the range of 200 RPM – 300 RPM or 150 RPM – 1000 RPM); (ii)

accelerating the data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the threshold rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 17-30, i.e., the disk 134 being accelerated by one or more acceleration rates from 200 RPM – 300 RPM or 150 RPM – 1000 RPM until the threshold second rotational velocity achieved).

Regarding claim 18, Boutaghou discloses that the threshold rotational velocity is an early exit velocity creating the air bearing as the transducer exists the landing zone and accesses the data region (see column 9 lines 12-25, i.e., being the early exit velocity, at the threshold first rotational velocity, the transducer moves from ramp 136 to disk 134 surface, and an air bearing is also created and maintained here).

Regarding claim 19, Boutaghou discloses a further step of: (d) accelerating the data storage disc at a third acceleration rate from the threshold rotational velocity to a final rotational velocity maintaining the air bearing as the transducer locates to an outer diameter of the data storage disc (see column 9 lines 25-30, i.e., the disk 134 being accelerated at a third acceleration rate to the final second rotational velocity as the transducer positioned over disk surface locating data anywhere on the disk surface including outer diameter area).

Regarding claim 23, Boutaghou discloses that the accelerating step (b) comprises steps of: (i) accelerating the data storage disc at the second acceleration rate from the first predetermined rotational velocity to a second predetermined rotational velocity (see column 9 lines 9-25, i.e., at the second acceleration rate, the disk 134 is

accelerated from 200 RPM – 300 RPM or 150 RPM – 1000 RPM); (ii) accelerating the data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the threshold rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 20-30, i.e., the disk 134 being accelerated at one or more next acceleration rates from the predetermined first rotational velocity to the predetermined second rotational velocity which is the threshold rotational velocity).

Regarding claim 24, Boutaghou discloses that the acceleration step (d) comprises steps of: (i) accelerating the data storage disc at the third acceleration rate from the threshold rotational velocity to a second predetermined rotational velocity (see column 9 lines 9-25); (ii) accelerating the data storage disc at one or more next acceleration rates from the second predetermined rotational velocity to the final rotational velocity if the second predetermined rotational velocity does not equal the threshold rotational velocity (see column 9 lines 25-30).

Regarding claim 25, Boutaghou discloses a disc drive (see column 3 line 55) having a data storage disc rotably mounted to a base plate (see column 3 line 56) and operable to spin at a rotational velocity (see column 3 lines 63-66) and an actuator arm mounted on the base plate adjacent the disc (see column 3 line 57), the disc drive comprising: a transducer attached to the actuator arm (see column 5 lines 18-24, i.e., the transducer 150 attached to the actuator arm 123) and parked on a landing zone on a surface of the disc (see column 5 lines 49-60, column 6 lines 16-18), the transducer being operable to move over the surface of the disc as the disc reaches a threshold

rotational velocity (see column 9 lines 20-30); and means for accelerating the data storage disc at multiple acceleration rates from an initial rotational velocity to the threshold rotational velocity (see column 9 lines 25-30 or column 10 lines 22-24, 34-37, i.e., the spindle motor controller).

Regarding claim 26, Boutaghou discloses means for moving the transducer from the landing zone to a data region on the disc at the threshold rotational velocity (see column 5 lines 33-36 or column 6 lines 22-27 or column 9 lines 21-25, i.e., the load tang or the actuator controller).

Regarding claim 27, Boutaghou discloses that the threshold rotational velocity is a final rotational velocity creating and maintaining an air bearing between the transducer and the surface of the disc as the transducer radially traverses across the disc between an inner diameter and an outer diameter (see column 9 lines 11-30, i.e., the second rotational velocity being the threshold rotational velocity and the final rotational velocity and an air bearing being maintained here too).

Regarding claim 28, Boutaghou discloses that the threshold rotational velocity is an early exit velocity creating an air bearing between the transducer and the surface of the disc as the transducer exits the landing zone and accesses the data region (see column 9 lines 11-25, i.e., at the first rotational velocity, the transducer exists the ramp and accesses the data region on the disk surface).

Allowable Subject Matter

9. Claims 4, 5, 8-10, 16, 17, 20-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Claims 4, 5, 8-10, 16, 17, 20-22 are allowable over the prior art of record because none of the prior art of record teaches or fairly suggests a multi-phase acceleration system or method for increasing rotational velocity of a data storage disc in a disk drive comprising accelerating the disk at multiple acceleration rates based on predetermined time periods between an initial time parameter (Ti) and a final time parameter (Tf), wherein the disk may be accelerated at a first acceleration rate from time (Ti) to a predefined time parameter (Tn), and accelerated at a second acceleration rate from time (Tn) to the time (Tf). Time (Tf) corresponding to a time that the rotational velocity of the disk has reached a velocity sufficient to create and maintain an air bearing between a slider of the head and the surface of the disk as the head radially traverses across the disk surface between the inner diameter and the outer diameter.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051, (formal communications, please mark "EXPEDITED PROCEDURE")

Or:

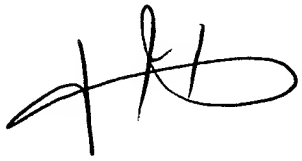
(703) 308-6606 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. V.A., Sixth Floor (receptionist).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Tzeng whose telephone number is 703-305-4841. The examiner can normally be reached on weekdays from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-308-4825. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-746-5710 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Fred F. Tzeng

April 26, 2004